Stage 1 Archaeological Assessment for the:
Proposed Westerly Extension of Britannia Avenue West from
Proposed Windfield Farms Drive to Thickson Road North
Within Part of Lots 1 to 20, Concession 5
In the former Geographic Township of Whitby and
Within Part of Lot 14, Concession 5
In the former Geographic Township of East Whitby
Historical County of Ontario
Now the Town of Whitby and City of Oshawa
Regional Municipality of Durham
Ontario

Project #: 007-WH960-13
Licensee (#): Nimal Nithiyanantham (P390)
PIF#: P390-0084-2014

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Presented to:
MMM Group Limited
100 Commerce Valley Drive West
Thornhill, Ontario
L3T 0A1
T: 416.497.8600
F: 416.497.0342

Prepared by:
Archeoworks Inc.
16715-12 Yonge Street, Suite #1029
Newmarket, Ontario
L3X 1X4
T: 416.676.5597
F: 416.676.5810
EXECUTIVE SUMMARY

Archeoworks Inc. was retained by the MMM Group Limited to conduct a Stage 1 Archaeological Assessment (‘AA’) for the proposed westerly extension of Britannia Avenue West, from proposed Windfields Farm Drive to Thickson Road North, situated within part of Lots 1 to 20, Concession 5, in the former Geographic Township of Whitby; and within part of Lot 14, Concession 5, in the former Geographic Township of East Whitby, historical County of Ontario, now the Town of Whitby and City of Oshawa, Regional Municipality of Durham, Ontario.

The Stage 1 AA identified the potential for the recovery of archaeologically significant materials within undisturbed portions of the study area. Archaeological potential was specifically identified by the close proximity (within 300 metres) to primary a water source, previously identified archaeological sites, historic transportation routes, historic structures and listed cultural heritage resources.

A review of field conditions has determined that most of the study area is rural in character. Minor disturbances include paved roadways, roadside ditches, road embankments, gravel shoulders, as well as newer industrial, commercial and residential developments. Potentially undisturbed areas with archaeological potential include (but are not limited to) agricultural fields, areas of heavy brush and weed growth, and manicured lawns.

Based on the established elevated archaeological potential, it is recommended that:

1. Regarding those areas previously subjected to Stage 1 AA by Archeoworks Inc. and Stantec (see Maps 5-6), all identified areas within these portions of the current study area which contain archaeological potential must be subjected to a Stage 2 AA employing pedestrian archaeological survey at five metre transects in accordance with Section 2.1.1 of the 2011 S&G, or a test-pit archaeological survey at five metre intervals in accordance with Section 2.1.2 of the 2011 S&G.

2. As per Section 1.4, Standard 1 of the 2011 S&G, the specific limits of disturbed locations, as illustrated in Map 9, need to be confirmed through a Stage 2 AA.

3. As per Section 1.4, Standard 1 of the 2011 S&G, the specific limits of low archaeological potential areas, as illustrated in Map 9, need to be confirmed through a Stage 2 AA.

4. All identified areas which contain archaeological potential, as illustrated in Map 9 must be subjected to a Stage 2 AA employing pedestrian archaeological survey at five metre transects in accordance with Section 2.1.1 of the 2011 S&G, or a test-pit archaeological survey at five metre intervals in accordance with Section 2.1.2 of the 2011 S&G (see Section 2.4).

No excavation activities shall take place within the study area prior to the MTCS (Archaeology Program Unit) confirming in writing that all archaeological licensing and technical review requirements have been satisfied.
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PROJECT PERSONNEL

Project Director ...................................................... Nimal Nithiyanantham – MTCS licence P390

Report Preparation ...................................................... Alvina Tam – MTCS licence P1016

Historical and Archival Research ................................. Lee Templeton – MTCS licence R454

Report Review ........................................................... Nimal Nithiyanantham – MTCS licence P390

Graphics ................................................................................. Mike Lawson
Alvina Tam – MTCS licence P1016
Lee Templeton – MTCS licence R454
1.0 PROJECT CONTEXT

1.1 Objectives

The objectives of a Stage 1 Archaeological Assessment (AA), as outlined by the 2011 Standards and Guidelines for Consultant Archaeologists (‘2011 S&G’) (2011) published by the Ministry of Tourism, Culture and Sport (MTCS), are as follows:

- To provide information about the property’s geography, history, previous archaeological fieldwork and current land condition;
- To evaluate in detail the property’s archaeological potential, which will support recommendations for Stage 2 survey for all or parts of the property; and
- To recommend appropriate strategies for Stage 2 survey.

1.2 Development Context

Archeoworks Inc. was retained by the MMM Group Limited to conduct a Stage 1 AA for the proposed westerly extension of Britannia Avenue West, from proposed Windfields Farm Drive to Thickson Road North, situated within part of Lots 1 to 20, Concession 5, in the former Geographic Township of Whitby; and within part of Lot 14, Concession 5, in the former Geographic Township of East Whitby, historical County of Ontario, now the Town of Whitby and City of Oshawa, Regional Municipality of Durham, Ontario (the ‘study area’) (see Appendix A – Map 1).

The proposed arterial road is being developed in support of planned urban growth in north Whitby and Oshawa and to facilitate orderly distribution of traffic across the broader transportation network. This study is being undertaken in accordance with the requirements of Schedule ‘C’ of the Municipal Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (1999, as amended 2000).

This Stage 1 AA was conducted through the EA process under the project direction of Mr. Nimal Nithiyananthan, under archaeological consultant licence P390, in accordance with the Ontario Heritage Act (2009). Permission to investigate the study area was granted by MMM Group Limited on January 17th, 2014.

1.3 Historical Context

The 2011 S&G considers areas of early Euro-Canadian settlement, including places of early military pioneer or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes), early wharf or dock complexes, and pioneer churches and early cemeteries, as having archaeological potential. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed in a
municipal register or designated under the *Ontario Heritage Act* or a federal, provincial, or municipal historic landmark or site, and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations are also considered to have archaeological potential.

To establish the historical and archaeological significance of the study area, *Archeoworks Inc.* conducted a comprehensive review of the past and present land use and settlement history of the study area. Additionally, a review of cultural heritage resources (i.e., listed and designated heritage properties), registered archaeological sites, and previous archaeological reports within close proximity to the study area was conducted. Furthermore, a review of the physiography of the overall area and its correlation to locating archaeological remains was performed.

The results of this background research are documented below and summarized in *Appendix B – Summary of Background Research.*

**1.3.1 Pre-Contact Period**

**1.3.1.1 The Paleoindian Period**

The region in which the study area is situated was first inhabited after the final retreat of the North American Laurentide ice sheet 15,000 years ago (or 13,000 B.C.) (Stewart, 2013, p.24). Massive amounts of glacial till, loose sand and soil were deposited across Etobicoke, as the ice retreated over the Oak Ridges Moraine creating sloping land underlain by fine-grained sediments of the South Slope (Barnet et al, 1998, p.1153). Initial vegetation of southern Ontario was tundra-like. As the average climatic temperature warmed and spruce trees were replaced by birch, red pine and jack pine, small groups of Paleoindians entered Southern Ontario (Karrow and Warner, 1990, p.22; Stewart, 2013, p.28). Paleoindians are thought to have been small groups of nomadic hunter-gathers who depended on naturally available foodstuff such as game or wild plants (Ellis and Deller, 1990, p.38). For much of the year, Paleoindians “hunted in small family groups; these would periodically gather into a larger grouping or bands during a favourable period in their hunting cycle, such as the annual caribou migration” (Wright, 1994, p.25).

Paleoindian sites are extraordinarily rare and consist of small clusters in an area of less than 200-300 metres (Ellis, 2013, p.35). These sites appear to have been small campsites used during travel episodes. They can be found on loamy, well-drained soils in elevated situations, which would have provided more comfortable locations in which to camp and view the surrounding territory (Ellis and Deller, 1990, p.50). Traditionally, Paleoindian sites have been located primarily along abandoned glacial lake strandlines or beaches. However, this view is biased as these are the only areas in which archaeologists have searched for sites, due to current understanding of the region’s geological history (Ellis and Deller, 1990, p.50; Ellis, 2013, p.37). In areas where attention has been paid to non-strandline areas and to older strandlines, sites are much less concentrated and are more ephemeral (Ellis and Deller, 1990, p.51). The artifact assemblage from this period is characterized by fluted and lanceolate stone points, scrapers, and small projectile points produced from specific chert types (Ellis and Deller, 1990).
Distinctive dart heads were used to kill game, and knives for butchering and other tasks (Wright, 1994, p.24). These items were created and transported over great distances while following migratory animals within a massive territory.

1.3.1.2 The Archaic Period
As the climate steadily warmed, deciduous trees slowly began to permeate throughout southeastern Ontario, creating mixed deciduous and coniferous forests (Karrow and Warner, 1990, p.30). The “Archaic peoples are the direct descendants of Paleoindian ancestors” having adapted to meet new environmental and social conditions (Ellis, 2013, p.41; Wright, 1994, p.25). The Archaic Period is divided chronologically and cultural groups are divided geographically and sequentially. Archaic Aboriginals lived in “hunter-gatherer bands whose social and economic organization was probably characterized by openness and flexibility” (Ellis et al, 1990, p.123). This fluidity creates ‘traditions’ and ‘phases’ which encompass large groups of Archaic Aboriginals that “may not exist in discrete and readily identifiable forms” (Ellis et al, 1990, p.123).

Few Archaic sites have faunal and floral preservation and lithic scatters are often the most common Archaic Aboriginal site type (Ellis et al, 1990, p. 123). House structures have “left no trace” due to the high acidic content of Ontario soils (Wright, 1994, p.27). Burial, grave goods and ritual items appear, although very rarely. By the Late Archaic, multiple individuals were buried together suggesting semi-permanent communities were in existence (Ellis, 2013, p.46). Ceremonial and decorative items also appear on Archaic Aboriginal sites through widespread trade networks, such as conch shells from the Atlantic coast and Galena from New York (Ellis, 2013, p.41). Through trade with the northern Archaic Aboriginals situated around Lake Superior, native copper was initially utilized to make hooks, knives but gradually became used for decorative and ritual items (Ellis, 2013, p.42).

During the Archaic period, stone points were reformed from the fluted and lanceolate points to stone points with notched bases to be attached to a wooden shaft (Ellis, 2013, p.41). The artifact assemblages from this period is characterized by a reliance on a wide range of raw lithic materials in order to make stone artifacts, the presence of stone tools shaped by grinding and polishing, and an increase in the use of polished stone axes and adzes as wood working tools (Ellis et al, 1990, p. 65; Wright, 1994, p.26). Ground-stone tools were also produced from hard stones and reformed into tools and throwing weapons (Ellis, 2013, p.41). The bow and arrow was first used during the Archaic period (Ellis, 2013, p.42).

1.3.1.3. The Woodland Period
The Woodland period began in ca. 800 B.C. It is divided chronologically into subsequent stages of cultural development. Early Woodland cultures evolved out of the Late Archaic period. The Woodland period is marked by the use of both hunting and gathering to procure a larger variety of foods, although with an increased reliance on domesticated plants. Pottery (ceramics) first appeared on Woodland Period sites, indicative of a successful subsistence pattern that required long-term storage of abundant resources. Furthermore, graves and grave goods gradually became more exotic and frequent, suggesting increased social complexity and developing trade
networks between Great Lakes communities (Bursey et al, 2013a; Spence et al, 1990; Fox, 1990; Ferris and Spence, 1995, p.89).

The Early Woodland Period is divided into two complexes: the Meadowood complex (800-450 B.C.), followed by the Middlesex complex (450-1 B.C.). The Middlesex component appears to be restricted to Eastern Ontario, particularly along the St. Lawrence River, while Meadowood materials depict a broad extent of occupation in southwestern Ontario (Spence et al, 1990, p.134, 141). Generally, Meadowood sites are in association with the Point Peninsula and Saugeen complexes and “then eventually changed or were absorbed into the Point Peninsula complex” (Wright, 1994, pp. 29-30).

From 200 B.C. to A.D. 900, during the Middle Woodland Period, the Point Peninsula complex was “distributed throughout south-central and eastern Southern Ontario, the southern margins of the Canadian Shield, the St. Lawrence River down river to Quebec City, most of southeastern Quebec, along the Richelieu River into Lake Champlain” (Spence et al, 1990, p.157; Wright, 1999, p.633). Subsequently, the Saugeen complex occupied “southwestern Southern Ontario from the Bruce Peninsula on Georgian Bay to the north shore of Lake Erie” (Wright, 1999, p.629). The Saugeen and Point Peninsula culture shared Southern Ontario but the Saugeen culture appears to have “occupied the region between Lake Huron and Lake Erie to the west of Toronto” (Wright, 1994, p.30). The borders between cultures are not well defined, and many academics believe that the Niagara Escarpment formed a frontier between the Saugeen complex and the Point Peninsula complex (Spence et al, 1990, p.143; Wright, 1999, p.629). Consequently, the dynamics of hunter-gatherer societies shifted territorial boundaries resulting in regional clusters throughout southwestern Southern Ontario that have been variously assigned to Saugeen, Point Peninsula, or independent complexes (Spence et al, 1990, p.148; Wright, 1999, p.649).

After A.D. 900, during the Late Woodland Period, the Ontario Iroquoian culture flourished throughout much of southern Ontario (Bursey et al, 2013b). Multiple sub-stages during this period are further divided spatially and chronologically and progressed into the Contact Period groups of the Late Ontario Iroquoian Stage (Williamson, 1990; Dodd et al, 1990). During this late sub-stage, the Iroquoian-speaking linguistic group developed. Neighbouring Iroquois-speaking nations united to form several confederacies known as the Huron (Wendat), Neutral (called Attiewandaron by the Wendat), Petun (Tionnontaté or Khionontateronon) in Ontario, and the Five Nations of the Iroquois (Haudenosaunee) of upper New York State (Birch, 2010, p.31; Warrick, 2013, p.71). These groups were located primarily in south and central Ontario. Each group was distinct but shared a similar pattern of life already established by the sixteenth century (Trigger, 1994, p.42). Villages developed as horticulture began to take on a more central importance in subsistence patterns, particularly the farming of maize, squash, and beans, supplemented by fishing, hunting, and gathering. Most Iroquoian sites were occupied for 10-50 years with minimal reoccupation of the same site (Warrick, 2007, p.127). The village was often located near waterways to optimize economic and trading capabilities. Intertribal trade consisted of small luxury items that could be carried overland (Trigger, 1994, p.44).
1.3.2 Contact Period
From Samuel de Champlain’s visit of the Huron-Wendat territory to the great epidemics of 1630, the Huron-Wendat population was reported to be approximately 30,000 individuals. Their territorial homeland and hunting grounds, known as Wendake stretched roughly between the Canadian Shield along the Frontenac Axis, Lake Ontario and the Niagara Escarpment (Warrick, 2008, p.12; Heidenreich, 1978, p.369). The western boundary is often contested, with a number of sites between the Niagara Escarpment and the Humber River occupied by a mixed Neutral-Wendat population (Warrick, 2008, p.15). It is speculated that four nations, the Attignawantan, Tahontaenrat, Attigheenongnahac, and Arendahronon, amalgamated to form a single Huron-Wendat Confederacy in defence against the continual aggression of the Haudenosaunee (Warrick, 2008, p.11; Trigger, 1994, p.41).

Settlement patterns were complex. Village sites were chosen for their proximity to sources of “water, arable soils, available firewood, [and] a young secondary forest, [as well as] a defendable position” (Heidenreich, 1978, p.375). Longhouse sizes depended on the size of the extended family that inhabited it. Archaeological evidence suggests that the average longhouse was 25 feet by 100 feet, with heights measuring about the same as widths (Heidenreich, 1978, p.366). Villages consisted of up to 100 longhouses clustered closely together, and only the largest villages on the frontier were fortified (Heidenreich, 1978, p.377). Subsistence patterns reflect a horticultural diet that was supplemented with fish rather than meat (Heidenreich, 1978, p.377). ‘Slash-and-burn’ farming was used to quickly and efficiently clear trees and brushwood for flour and flint corn fields (Heidenreich, 1978, p.380). These were consistently cultivated until no longer productive, at which point the village was abandoned, an event that took place about every eight to twelve years (Heidenreich, 1978, p.381).

By 1609, Samuel de Champlain had encountered the Huron-Wendat, in particular the Arendahronon. Desiring greater quantities of furs, the French concluded a trading relationship with the Huron-Wendat (Trigger, 1994, p.68; Heidenreich, 1978, p.386). Consequently, the Huron-Wendat became the middlemen for trade goods between the French and their Algonquin, Nippissing, Tionnontaté, and Attiewandaron neighbours. By mid-1620, the Huron-Wendat had exhausted all available pelts in their own hunting territories and opted to trade European goods for tobacco and furs from their neighbours (Trigger, 1994, pp.49-50).

During the 1630s, Jesuit missionaries attempted to convert the entire Huron-Wendat Confederacy to Christianity as the initial phase of a missionary endeavour to convert all native people in Southern Ontario (Trigger, 1994, p.51). However, the Jesuits’ presence in the region had become precarious after a series of major epidemics of European diseases that killed nearly two-thirds of the Huron-Wendat population, lowering the total population to approximately 10,000 individuals (Warrick 2008, p.245; Heidenreich, 1978, p.369). These epidemics affected children and elderly the worst. The death of their elders deprived the Huron-Wendat of their experienced political, military, and spiritual leaders, leaving them more susceptible to Christian missions and conversion (Trigger, 1994, p.52; Heidenreich, 1978, p.371).
By 1645, having grown dependent on European goods and with their territory no longer yielding enough animal pelts, the Haudenosaunee became increasingly aggressive towards the Huron-Wendat Confederacy (Trigger, 1994, p.53). Armed with Dutch guns and ammunition, the Haudenosaunee engaged in warfare with the Huron-Wendat Confederacy and brutally attacked and destroyed several Huron-Wendat villages throughout Southern Ontario (Trigger, 1994, p.53). After the massacres of 1649-50, the Huron-Wendat Confederacy dispersed widely throughout the Great Lakes region (Schmalz, 1991, p.17).

1.3.3 Post Contact Period

Although their homeland was located south of the Great Lakes, the Haudenosaunee controlled most of Southern Ontario, occupying at “least half a dozen villages along the north shore of Lake Ontario and into the interior” (Schmalz, 1991, p.17). The Seneca, the westernmost group of the Haudenosaunee Confederation, had moved into the area and established two villages: Ganatsekwyagon, near Frenchman’s Bay and Teieiagon on the mouth of the Humber River (Abler and Tooker, 1978, p.505). Both villages were established as the primary portage route for fur traders (McKay, 1961, p.16; Heyes, 1974, p.6).

As early as 1653, the Ojibwa of the Anishinaabeg, an Algonquin-speaking linguistic group, wanted control of the land between Lake Huron and Lake Ontario in order to further their role in the fur trade (Johnston, 2004). Before contact with the Europeans, the Ojibwa territorial homeland was situated inland from the north shore of Lake Huron (MNCFN, ND, p.3). In 1640, the Jesuit fathers had recorded the name “oumisagai, or Mississaugas, as the name of the group who resided near the Mississagi River on the northwestern shore of Lake Huron. The French, and later English, applied this same designation to all Algonquian-speaking groups settling on the north shore of Lake Ontario (Smith, 2002, p. 107).

After a major smallpox epidemic in 1662, the capture of New Netherland by the English in 1664 curtailed access to guns and powder. Following a series of successful attacks against the Haudenosaunee by the Ojibwa from 1653 to 1662, the Haudenosaunee dominance in the region began to fail (Warrick, 2008, p.242; Schmalz, 1991, p.20). By 1680, the Ojibwa had begun to settle just north of the evacuated Huron-Wendat territory and with the English entering the fur-trading market, the Ojibwa began to expand into southern Ontario (Gibson, 2006, p. 36; Schmalz, 1991, p.18). The Mississauga moved southward against the Haudenosaunee utilizing Toronto Carrying Place Trail to defeat the Haudenosaunee at the mouth of the Humber River (Gibson, 2006, p. 37; Schmalz, 1991, p.27). In 1701, Ojibway parties met the Haudenosaunee at Burlington Bay and on the Bruce Peninsula in a final push to expel the Haudenosaunee from Ontario (Gibson, 2006, p.37).

In 1701, representatives of several bands within the Ojibwa Nation and the Haudenosaunee assembled in Montreal to participate in Great Peace negotiations, sponsored by the French (Johnston, 2004; Trigger, 2004, p.58). The Mississaugas were granted sole possession of the territory to the north of Lake Ontario and Lake Erie, while the Haudenosaunee, or Six Nations as the British referred to them, retained their territory along the Grand River (Hathaway, 1930, p.433).
From 1701 to the fall of New France in 1759, the Ojibwa experienced a “golden age” of trade, holding no conclusive alliance with either the British or the French while maintaining their middle-man position between native groups to the north and in southwestern Ontario (Schmalz, 1991, p. 35). As the Seven Years War between the French and British continued in North America, both the Ojibwa bands and the French were weakened by famine, lack of supplies, and disease (Schmalz, 1991, p.53). In 1763, the Royal Proclamation declared the Seven Years War over, giving the British control of New France and creating a western boundary for British colonization. The British did not earn the respect by several Ojibwa bands, as the British did not respect fair trade nor the Ojibwa occupancy of the land as the French had, and the Pontiac Uprising, also known as the Beaver Wars, began that same year (Schmalz, 1991, p.70). Pontiac, an Ottawa-Ojibwa, rallied several bands against British occupation of New France, but many groups also sought to avoid military action (Schmalz, 1991, p.71). After numerous attacks on the British, by 1766, the Pontiac Uprising ended when a peace agreement with Sir William Johnson, the Superintendent of Indian Affairs, was concluded, which depended mostly on the integrity of the British (Schmalz, 1991, p.81).

1.3.4 Euro-Canadian Settlement History
By the end of the 1700s, the Mississaugas claimed portions of the County of Ontario, along with most of Southern Ontario (Surtees, 1994, p.94). After the American War of Independence in the late 1700s, United Empire Loyalists and American immigrants began to move into southern Ontario. This migration created an increased demand on the quantity of available lands for settlement within southern Ontario.

In 1787 and 1788, senior officials from the Indian Department met with the Mississaugas bands at both the Carrying Place on the Bay of Quinte and Toronto to acquire land along the northern shores of Lake Ontario to Lake Simcoe (Surtees, 1994, p.107). As a result of these meetings, officials believed that they had successfully obtained and paid for the large portion of land that would allow settlers to acquire the land from the Crown and settle (Surtees, 1994, p.107). However, documentation which formalized the transaction did not include a description of the area surrendered and the matter of land cession within Ontario County remained a legal issue until 1923. After the Anishinaabeg continually pressured the Federal government to review the land cessation documents for lands south of Lake Simcoe, it became apparent that the land had not been correctly purchased by the British (Surtees, 1994, p.107; Surtees, 1986, p.19). The William’s Treaty provided for the last surrender of the last substantial portion of the territory that had not been given up to government (Surtees, 1986, p.19).

The Township of Whitby formally combined the Township of East Whitby, Oshawa and the Town of Whitby, and was partially surveyed in 1791 and completed in 1795 (Beers, 1877, p.viii). Whitby Township was originally known as Township No. 8 of the Lake Shore townships, was changed to Norwich Township and then renamed Whitby after an English seaport and market town that was destroyed in 867 A.D. (Farewell, n.d., p.18; Gardiner, 1899 p.210). Whitby was divided into two separate townships in 1857, the eastern portion being a separate municipality named East Whitby (Beers, 1877, p. ix; Mika and Mika, 1983, p.129).
Small hamlets existed within the Township of Whitby, such as Brooklin, located around the intersection of Winchester Road and Baldwin Street. Initially named Winchester, it was founded by John and Robert Campbell in 1840 after they opened a flour mill on the Lynde Creek (Mika and Mika, 1977, p.230; CLOCA, 2008, p.9). In 1845, Baldwin Street, or the Whitby-Scugog Plank Road, was built through Winchester and a post office was established. At the time of the establishment of a post office, another village of Winchester existed in eastern Ontario and to avoid duplication of village names, Winchester was renamed to Brooklin (Mika and Mika, 1977, p.230). In 1874, the Whitby & Port Perry Railway and a station was completed passing through Brooklin with the intention of bringing larger quantities of grain to Port Whitby to export (Cooper, 2008). Brooklin functioned as a milling centre for grinding wheat into flour for the surrounding agricultural lands until well into the twentieth century.

1.3.5 Past Land Use
To assess the study area’s potential for the recovery of historic pre-1900 remains, several documents were reviewed, namely the 1860 Tremaine’s Map of the County of Ontario and the 1877 Illustrated Historical Atlas of the County of Ontario (see Maps 2-3). The study area encompasses part of Lots 1 to 20, Concession 5, in the former Geographic Township of Whitby; and Lot 14, Concession 5, in the former Geographic Township of East Whitby, both in the historical County of Ontario.

In 1860, several historic structures fall within the study area, but the majority of the study area appears to be primarily agricultural lands. By 1877, the study area encompassed primarily farmland and their associated homesteads and the west branch of the Oshawa Creek continues to flow through the eastern limits of the study area (see Table 1).

Table 1: Historical Structures within the Study Area

<table>
<thead>
<tr>
<th>Township</th>
<th>Con.</th>
<th>Lot</th>
<th>Portion</th>
<th>Occupant/Owner</th>
<th>Structure(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Whitby</td>
<td>5</td>
<td>14</td>
<td>South part</td>
<td>Harvey Karr</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>East Whitby</td>
<td>5</td>
<td>14</td>
<td>South part</td>
<td>M. &amp; M. Spencer</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>East Whitby</td>
<td>5</td>
<td>14</td>
<td>North of south part</td>
<td>Rich. Inke</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>15</td>
<td>South part</td>
<td>J. Bowles</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>16</td>
<td>South half</td>
<td>J. Bowles</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>17</td>
<td>North half</td>
<td>Chas. Reynolds</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>18</td>
<td>South part</td>
<td>John Bowles</td>
<td>One structure</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>19</td>
<td>All</td>
<td>D. Dow</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>20</td>
<td>South west half</td>
<td>Wm. Karr</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>20</td>
<td>South east part</td>
<td>D. Dow</td>
<td>No structure(s)</td>
</tr>
</tbody>
</table>
A total of three historic structures were depicted within the study area in 1860 and one additional historic structure was depicted within 300 metres of the study area limits. By 1877, seven historic homesteads were depicted within the study area and an additional seven historic homesteads were depicted within 300 metres of the study area.

Furthermore, the study area encompasses several historic settlement roads – Thickson Road, Garrad Road, Thornton Road North, Stevenson Road North and Conlin Road – which were originally laid out during the survey of the Townships of Whitby and East Whitby. Stevenson Road appears to have extended to Winchester Road, however at present, it currently ends at Conlin Road. In Southern Ontario, the 2011 S&G considers undisturbed lands within 300 metres of early Euro-Canadian settlements and 100 metres of early historic transportation routes (e.g., trails, passes, roads, railways, portage routes) to be of elevated archaeological potential. Therefore, based on the proximity of several historic structures and transportation routes, elevated potential for the location of Euro-Canadian archaeological resources (pre-1900) within undisturbed portions of the study area can be established.

1.3.6 Present Land Use
The primary present land use of the study area can be categorized as rural/agricultural.

<table>
<thead>
<tr>
<th>Township</th>
<th>Con.</th>
<th>Lot</th>
<th>Portion</th>
<th>Occupant/Owner</th>
<th>Structure(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whitby</td>
<td>5</td>
<td>20</td>
<td>South of north half</td>
<td>Daniel Halliday</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>14</td>
<td>South part</td>
<td>J. Shand</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>14</td>
<td>South part</td>
<td>R. Luke</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>14</td>
<td>North of south part</td>
<td>Geo. Hyland</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>15</td>
<td>South half</td>
<td>Geo. Hyland</td>
<td>One structure</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>16</td>
<td>South of south half</td>
<td>Wm. McGill</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>16</td>
<td>North of south half</td>
<td>H. Dearbourn</td>
<td>One structure</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>16</td>
<td>North part</td>
<td>J. Woodburn (?)</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>16</td>
<td>North half</td>
<td>W. Hill</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>17</td>
<td>South half</td>
<td>D. Hikson</td>
<td>One structure</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>17</td>
<td>North half</td>
<td>C. Groat</td>
<td>One structure</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>18</td>
<td>South part</td>
<td>J. Michael</td>
<td>One structure</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>18</td>
<td>Middle part</td>
<td>D. Lamon</td>
<td>One structure</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>19</td>
<td>All</td>
<td>D. Dow</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>20</td>
<td>South west half</td>
<td>J. Kerr</td>
<td>No structure(s)</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>20</td>
<td>South east part</td>
<td>D. Dow</td>
<td>One structure</td>
</tr>
<tr>
<td>Whitby</td>
<td>5</td>
<td>20</td>
<td>South of north half</td>
<td>D. Holliday Sr.</td>
<td>No structure(s)</td>
</tr>
</tbody>
</table>
1.4 Archaeological Context

1.4.1 Designated and Listed Cultural Heritage Resources
Consultation of the Ontario Heritage Properties Database which records heritage resources that have been designated for their provincial cultural value or interest under the *Ontario Heritage Act*, confirmed the absence of provincially designated heritage properties within the study area and within property within 300 metres the study area.¹

Consultation with the document entitled ‘Heritage Oshawa – Inventory of Oshawa Heritage Properties’ (City of Oshawa, 2013) which identifies properties of cultural heritage value or interest within the City of Oshawa, and includes properties identified as ‘Class A’ and ‘Class B’. Class A properties are significant properties determined to have the highest potential for designation and Class B properties are determined to have good potential for designation. Review of this inventory confirmed the absence of both designated and significant heritage resources within the study area. No designated or significant heritage resources are located within 300 metres of the study area.

In an attempt to obtain an inventory of all designated and listed heritage resources located within the study area that falls within the Town of Whitby, the Planning Department at the Corporation of the Town of Whitby was contacted and confirmed that one listed heritage property lies within the study area. An additional listed heritage property and two heritage properties under review are located within 300 metres of the study area (Town of Whitby, 2014a) (see Map 4).

1.4.2 Heritage Conservation Districts
A Heritage Conservation District (HCD) includes areas that have been protected under Part V of the Ontario Heritage Act. An HCD can be found in both urban and rural environments and may include residential, commercial and industrial areas, rural landscapes or entire villages or hamlets with features or land patterns that contribute to a cohesive sense of time or place and contribute to an understanding and appreciation of the cultural identity of a local community, region, province or nation. An HCD may comprise an area with a group or complex of buildings, or a large area with many buildings and properties. They often extend beyond their built heritage, structures, streets, landscapes, and other physical and spatial elements, to include important vistas and views between and towards buildings and spaces within the district (MTCS, 2006, p.5). HCDs are a valuable cultural heritage and must be taken into consideration during municipal planning to ensure that they are conserved.

Consultation with the Town of Whitby confirmed the portion of the study area within the Town of Whitby does not encompass an HCD (Town of Whitby, 2014b). Consultation with Heritage

¹ Clarification: As of 2005, the Ontario Heritage Properties Database is no longer being updated. The Ministry of Tourism, Culture and Sport is currently updating a new system which will provide much greater detail to users and will become publicly accessible in the future. (http://www.hpd.mcl.gov.on.ca)
Oshawa also confirmed that the portion of the study area within the City of Oshawa does not encompass an HCD (Heritage Oshawa, 2012).

1.4.3 Commemorative Plaques or Monuments
According to Section 1.3.1, Standard 1 of the 2011 S&G, undisturbed lands within 300 metres of Euro-Canadian settlements where commemorative markers of their history, such as local, provincial, or federal monuments, cairns or plaques, or heritage parks, are considered to have elevated archaeological potential. To determine if any historical plaques are present, the Ontario’s Historical Plaques inventory, which contains a catalogue of all federal Historic Sites and Monuments Board of Canada plaques, all the provincial Ontario Heritage Trust plaques, all the plaques from the various historical societies and all other publish plaques located in Ontario, confirmed no historical plaques are located within and within 300 metres of the study area (Ontario’s Historical Plaques, 2014). Therefore, based on the absence of historical plaques either within or within 300 metres of the study area, this feature does not aid to elevate the archaeological potential of the study area.

1.4.4 Registered Archaeological Sites
In order that an inventory of archaeological resources could be compiled for this study area, the Ontario Archaeological Sites Database (OASD) maintained by the MTCS was consulted (MTCS, 2013). Every archaeological site is registered according to the Borden System, which is a numbering used throughout Canada to track archaeological sites and their artifacts. The study area is located within Borden block AlGr.

According to the MTCS (2014), 14 archaeological sites have been registered within a one-kilometre radius of the study area (see Table 2). The 2011 S&G considers undisturbed lands within 300 metres of a registered archaeological site to be of elevated archaeological potential. Since two sites fall within 300 metres of the study area, elevated archaeological potential within the study area is established.

Table 2: Registered Archaeological Sites within One Kilometre of the Study Area

<table>
<thead>
<tr>
<th>Borden #</th>
<th>Name</th>
<th>Cultural Affiliation</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sites within 300 m of the Study Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AlGr-198</td>
<td>Daniel Holliday (Central H7)</td>
<td>Euro-Canadian</td>
<td>Domestic</td>
</tr>
<tr>
<td>AlGr-208</td>
<td>George Davidson</td>
<td>No details listed</td>
<td>No details listed</td>
</tr>
<tr>
<td>Sites located within one kilometre of the Study Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AlGr-2</td>
<td>Rodd</td>
<td>Undetermined</td>
<td>Undetermined</td>
</tr>
<tr>
<td>AlGr-9</td>
<td>Hogarth</td>
<td>Undetermined</td>
<td>Undetermined</td>
</tr>
<tr>
<td>AlGr-107</td>
<td>Hunter’s Folly</td>
<td>Pre-contact</td>
<td>Undetermined</td>
</tr>
<tr>
<td>AlGr-113</td>
<td>Flint</td>
<td>Euro-Canadian</td>
<td>Homestead</td>
</tr>
<tr>
<td>AlGr-142</td>
<td>The Davey Site</td>
<td>Euro-Canadian</td>
<td>Homestead</td>
</tr>
<tr>
<td>AlGr-195</td>
<td>AlGr-195 – Central P6</td>
<td>Pre-contact</td>
<td>Findspot</td>
</tr>
<tr>
<td>AlGr-200</td>
<td>AlGr-200 – Central P5</td>
<td>Pre-contact</td>
<td>Undetermined</td>
</tr>
<tr>
<td>AlGr-208</td>
<td>George Davidson</td>
<td>No details listed</td>
<td>No details listed</td>
</tr>
<tr>
<td>AlGr-209</td>
<td>Central H9</td>
<td>No details listed</td>
<td>No details listed</td>
</tr>
<tr>
<td>AlGr-212</td>
<td>Central P13</td>
<td>Middle Archaic</td>
<td>Findspot</td>
</tr>
<tr>
<td>AlGr-223</td>
<td>Central P12</td>
<td>Aboriginal, Pre-contact</td>
<td>Findspot</td>
</tr>
</tbody>
</table>
1.4.5 Previous Archaeological Assessments

In order to further establish the archaeological context of the project area, reports documenting previous archaeological fieldwork carried out within the limits of, or immediately adjacent (i.e., within 50 metres) of the project area were consulted. A map of the limits and results of these assessments is provided within Maps 5-6. Six reports were identified, all of which were previous assessments associated with other development projects:

**Previous assessment(s) associated with other development project:**

1. **Stage 1 Archaeological Assessment for the: Greater Brooklin Secondary Plan Area Environmental Assessment within Parts of Lots 22-23, Concession 4; Lots 18-28, Concession 5; Lots 18-31, Concession 6; and, Lots 19-31, Concession 7, Geographic Township of Whitby, Historical County of Ontario, Town of Whitby, Regional Municipality of Durham, Ontario (Archeoworks Inc., 2013)**

   Archeoworks Inc. conducted a Stage 1 AA of a parcel of land including parts of Lots 22-23, Concession 4; Lots 18-28, Concession 5; Lots 18-31, Concession 6 and; Lots 19-31, Concession 7, Town of Whitby. This assessment includes lands within the current study area limits. The Stage 1 AA identified high potential for the recovery of Aboriginal and historic Euro-Canadian archaeological resources within undisturbed portions of the subject area as much of the study area as retained its rural character. Therefore, it was recommended that any undisturbed portions of the study area not free of archaeological concern be subjected to the appropriate stages of AA prior to the onset of construction, grading, or other development activities.

2. **Stage 2 Archaeological Assessment for the 407 East Individual Environmental Assessment, Regional Municipality of Durham, Ontario - 2008 RESULTS (Archaeological Services Inc. and URS Canada Ltd, 2010)**

   Archaeological Services Inc. (ASI) and URS Canada Ltd. (URS) were retained to conduct a Stage 2 AA for three sections of the 407 East EA in the Regional Municipality of Durham, Ontario. The Stage 2 AA was conducted on the Technically Preferred Route (TPR) on any accessible lands where there was potential for archaeological sites and where field conditions were suitable. This report discusses fieldwork conducted within and within 50 metre of the current study area limits, within the Central Mainline I – Sheet C3, C4 and C5, Look-Up SU 25B, 521A, 26A, and 10A-B. Of the archaeological resources encountered during the 2008 assessments, the Daniel Holliday (Central H7) AlGr-198 site was located which falls within 300 metres of the current study area limits. Stage 3 AA was recommended for the Daniel Holliday (Central H7) AlGr-198. No additional sites were located in 25B, 521A, 26A, and 10A-B and these fields are of no further archaeological concern.

ASI and URS were retained to conduct a Stage 2 AA for the three sections of the 407 East EA in the Regional Municipality of Durham, Ontario. The Stage 2 AA was conducted on the TPR on newly accessible lands where there was potential for archaeological sites and where field conditions were suitable. This report discusses fieldwork conducted within the Central Mainline I – Sheet C4-5, Lookup SU 26B, 17A and 9B, which falls within 50 metres of the current study area limits. Of the archaeological resources encountered during the 2008 assessments, CH13 (AlGr-208) was located and falls within 300 metres from the current study area limits. Stage 3 AA was recommended for CH13 (AlGr-208). No additional sites were located during the pedestrian survey of 26B, 17A and 9B and these fields are of no further archaeological concern.


ASI conducted a Stage 2 AA of Phase One of the Highway 407 East extension, in the Regional Municipality of Durham, Ontario. The Stage 2 AA was conducted on the TPR on newly accessible lands where there was potential for archaeological sites and where field conditions were suitable. This report discusses fieldwork conducted within the Central Mainline I – Sheet C5, Lookup SU 9E, which falls within 50 metres of the current study area limits. No archaeological resources were recovered during the pedestrian survey of 9E and 9E is of no further archaeological concern.


ASI conducted a Stage 2 AA for the Highway 407 East, Phase One, in the Region of Durham, Ontario. The Stage 2 AA was conducted on the TPR on newly accessible lands where there was potential for archaeological sites and where field conditions were suitable. This report discusses fieldwork conducted within the Central Mainline I – Sheet C3, Lookup SU 777A, which falls within 50 metres of the current study area limits. No archaeological resources were recovered during the pedestrian survey of 777A and 777A is of no further archaeological concern.

6. Final Report Stage 1 AA, Conlin Road West, Class Environmental Assessment Study, City of Oshawa, Ontario (Stantec, 2012)

This report is still not in the Archaeological Report Registry and as such, discussion with Colin Varley (2014) confirmed a Stage 1 AA had been conducted on a corridor of land stretching from...
approximately 440 metres west of Thornton Road to approximately 540 metres east of Stevenson Road. This assessment includes lands within the current study area limits. An optional property inspection had occurred along the length of subject corridor which determined the only disturbance present was the existing roadway. A Stage 2 AA is recommended for the entire length of the subject corridor (Varley, 2014).

1.4.6 Physical Features
An investigation of the study area’s physical features was conducted to aid in the development of an argument for archaeological potential based on the environmental conditions of the study area. Environmental factors such as close proximity to water, soil type, and nature of the terrain, for example, can be used as predictors to determine where human occupation may have occurred in the past.

The study area is located in the South Slope physiographic region of Southern Ontario. The South Slope is the southern part of the Oak Ridges Moraine, and includes the strip south of the Peel Plain, extending from the Niagara Escarpment to the Trent River. The land within the former counties of Ontario and Durham is drumlinized, with the drumlins being long, thin, scattered, and pointing directly up the slope. Streams flow directly down the slope, causing east-west sideroads to cross a succession of valleys which were cut by these water courses. Some of the region’s soils have proven excellent for agricultural use since the nineteenth century (Chapman and Putnam, 1984, pp.172-174).

Several soil types are found within the study area: Darlington loam, Whitby loam, Brighton sandy loam, Tecumseth sandy loam, Granby sandy loam, and Bottom Land, the last of which follows the path of the Oshawa Creek bisecting the study area. A description of their characteristics may be found in Table 3 (Ontario Agricultural College, 1956). The great variety in soil types further highlights the mixed landscape that the study area encompasses and supports the mixed nature of past subsistence practices and changing industries of early settlers in these areas (see Section 1.3). Soils more conducive to agriculture, such as good drainage and stonefree, has the potential for past settlement, support greater population density and subsequently elevated archaeological potential.

<table>
<thead>
<tr>
<th>Soil Series</th>
<th>Soil Type</th>
<th>Great Group</th>
<th>Soil Materials</th>
<th>Drainage</th>
<th>Topography and Surface Stoniness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Darlington</td>
<td>Loam</td>
<td>Grey-Brown Podzolic</td>
<td>Clay loam till derived from limestone and shale</td>
<td>Good</td>
<td>Undulating to rolling and slightly stony</td>
</tr>
<tr>
<td>Whitby</td>
<td></td>
<td></td>
<td></td>
<td>Imperfect</td>
<td>Gently undulating and slightly stony</td>
</tr>
<tr>
<td>Brighton</td>
<td>Sandy loam</td>
<td></td>
<td>Calcareous sand</td>
<td>Good</td>
<td>Level to gently undulating and very few stones</td>
</tr>
<tr>
<td>Tecumseth</td>
<td></td>
<td></td>
<td></td>
<td>Imperfect</td>
<td>Nearly level and very few stones</td>
</tr>
<tr>
<td>Granby</td>
<td></td>
<td>Dark Grey Gleisolic</td>
<td></td>
<td>Poor</td>
<td>Depressional and very</td>
</tr>
</tbody>
</table>
In terms of archaeological potential, potable water is a highly important resource necessary for any extended human occupation or settlement. As water sources have remained relatively stable in Southern Ontario since post-glacial times, proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location. In Southern Ontario, the 2011 S&G considers undisturbed lands in proximity (within 300 metres) to a water source to be of elevated archaeological potential. Hydrological features such as lakes, rivers, creeks, swamps, and marshes would have helped supply plant and food resources to the surrounding area, and consequently support high potential for locating archaeological resources within 300 metres of their limits. A watershed is an area drained by a river and its tributaries. As surface water collects and joins a collective water body, it picks up nutrients, sediment and pollutants, which may altogether, affect ecological processes along the way. The study area is located within the Oshawa Creek watershed and Pringle Creek and the west branch of the Oshawa Creek traverse the study area. This watershed and primary water sources would have helped supply plant and food resources to the surrounding area, and, subsequently supports elevated potential for locating archaeological resources within 300 metres of their limits.

**1.4.7 Current Land Condition and Uses**

The study area is located within a rural area and is comprised primarily of agricultural fields. It is bounded by Thickson Road North to the west, the proposed Windfield Farms Drive to the east, Conlin Road to the south and south of the proposed Highway 407 east extension to the north. The topography within the study area is fairly level, with the elevation averaging 154 metres above sea level throughout the study area.

A review of aerial photographs taken in 1954 and present day satellite imaging, reveals that the study area has retained its primarily rural nature *(see Maps 7-8)*. The most extensive changes since at least 1954 are a few residential developments, with the largest residential subdivision situated west of Thornton Road North, encompassing present day Winfred Avenue, Bickle Drive and Roselawn Avenue.

**1.4.8 Date(s) of Archaeological Fieldwork**

The optional Stage 1 property inspection of the study area was not undertaken due to snow conditions. However, a desktop review of the study area, using historical aerial photographs and Google Earth satellite imaging, was undertaken on February 12\(^{th}\), 2014, to discern features of archaeological potential.
1.5 Confirmation of Archaeological Potential

Based on the information gathered from background research documented in the preceding sections, potential for the recovery of archaeological resources within the study area limits has been established. Features contributing to archaeological potential are summarized in Appendix B.

2.0 ANALYSIS AND CONCLUSIONS

A desktop review of field conditions was carried out using satellite imagery obtained by the Google Earth application. In combination with data gathered from background research (see Sections 1.3 and 1.4), an assessment of archaeological potential was performed.

2.1 Previously Surveyed Lands

Background research has revealed that the portion of the study area situated within the Town of Whitby and the southern edge of the portion of the study area situated in the City of Oshawa, had already been subjected to a Stage 1 AA by Archeoworks Inc. (2013) and Stantec (2012), respectively (see Maps 5-6). Both studies determined that all undisturbed portions within each study area would require Stage 2 AA (see below Section 2.4).

2.2 Identified Deep and Extensive Disturbances

The study area was evaluated for extensive disturbances that have removed archaeological potential. Disturbances may include but are not limited to: grading below topsoil, quarrying, building footprints or sewage and infrastructure development. Section 1.3.2 of the 2011 S&G’s counts infrastructure development among those “features indicating that archaeological potential has been removed.” Although the optional field inspection was not carried out, paved roadways, roadside ditches, road embankments, gravel shoulders, newer commercial and residential developments (which were not present in the 1954 aerial photograph) exhibit disturbed conditions. These land and infrastructure developments, the construction of which often entail soil-grading operations and the installation of utilities essential to service the areas (i.e., hydro, cable, sewer, water, etc.), would have caused extensive and deep disturbance to any archaeological resources that may have been present in the ground, thus resulting in the removal of archaeological potential within their footprints (see Map 9; Appendix C - Images 1-4). Given a property inspection was not undertaken, however, the specific limits of these disturbed areas will need to be confirmed through a Stage 2 AA.
2.3 Identified Areas of No or Low Archaeological Potential

The study area was also evaluated for physical features of no or low archaeological potential. These usually include but are not limited to: permanently wet areas, exposed bedrock, and steep slopes (greater than 20°) except in locations likely to contain pictographs or petroglyphs. The study area contains some permanently wet areas, as illustrated in Map 9, consisting of Pringle Creek, traversing the western portion of the study area, and the west branch of the Oshawa Creek, which traverses the eastern portion of the study area. Given a property inspection was not undertaken, however, the specific limits of these low archaeological potential areas will need to be confirmed through a Stage 2 AA.

2.4 Identified Areas of Archaeological Potential

Portions of the study area that do not exhibit extensively disturbed conditions are considered to have archaeological potential. These areas include (but are not limited to) the ploughed agricultural fields, areas of heavy shrub and weed growth, and woodlots (see Map 9, Images 2-6). These areas are not extensively disturbed and thus archaeological potential has not been removed. Therefore, it is recommended that these areas be subjected to a Stage 2 AA at five metre intervals.

The agricultural fields will require pedestrian survey at five metre transects, which involves systematically walking ploughed areas and mapping and collecting any artifacts found on the ground surface. The lands must be recently ploughed and subjected to the appropriate weathering requirements, in accordance with Section 2.1.1 of the 2011 S&G, in advance of pedestrian archaeological survey. Where ploughing in advance of pedestrian archaeological survey will not be possible, such as the areas of heavy shrub and weed growth, woodlots and manicured lawns, these areas will need to be subjected to a Stage 2 test pit archaeological survey at five metre intervals in accordance with Section 2.1.2 of the 2011 S&G.
3.0 RECOMMENDATIONS

5. Regarding those areas previously subjected to Stage 1 AA by Archeoworks Inc. and Stantec (see Maps 5-6), all identified areas within these portions of the current study area which contain archaeological potential must be subjected to a Stage 2 AA employing pedestrian archaeological survey at five metre transects in accordance with Section 2.1.1 of the 2011 S&G, or a test-pit archaeological survey at five metre intervals in accordance with Section 2.1.2 of the 2011 S&G.

6. As per Section 1.4, Standard 1 of the 2011 S&G, the specific limits of disturbed locations, as illustrated in Map 9, need to be confirmed through a Stage 2 AA.

7. As per Section 1.4, Standard 1 of the 2011 S&G, the specific limits of low archaeological potential areas, as illustrated in Map 9, need to be confirmed through a Stage 2 AA.

8. All identified areas which contain archaeological potential, as illustrated in Map 9 must be subjected to a Stage 2 AA employing pedestrian archaeological survey at five metre transects in accordance with Section 2.1.1 of the 2011 S&G, or a test-pit archaeological survey at five metre intervals in accordance with Section 2.1.2 of the 2011 S&G (see Section 2.4).

No excavation activities shall take place within the study area prior to the MTCS (Archaeology Program Unit) confirming in writing that all archaeological licensing and technical review requirements have been satisfied.
4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

1. This report is submitted to the City of Toronto’s Planning Division (Heritage Preservation Services Unit) and Ministry of Tourism and Culture as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

2. It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the Ontario Heritage Act. Furthermore, the Archaeology Program Unit of the Ministry of Tourism, Culture and Sport must be notified immediately at (416) 314-7146, as well as the City of Toronto’s Heritage Preservation Services Unit (416) 338-1096.

3. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the Ontario Heritage Act. Furthermore, the MTCS: (416) 314-7146 as well as the City of Toronto, Heritage Preservation Services Unit: (416) 338-1096 must be notified immediately.

4. The Cemeteries Act, R.S.O. 1990 c. C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services: (416) 326-8404. Furthermore, the MTCS: (416) 314-7146 as well as the City of Toronto, Heritage Preservation Services Unit: (416) 338-1096 must be notified immediately.
5.0 BIBLIOGRAPHY AND SOURCES


Archeoworks Inc. (2013). Stage 1 Archaeological Assessment for the: Greater Brooklin Secondary Plan Area Environmental Assessment within Parts of Lots 22-23, Concession 4; Lots 18-28, Concession 5; Lots 18-31, Concession 6; and, Lots 19-31, Concession 7, Geographic Township of Whitby, Historical County of Ontario, Town of Whitby, Regional Municipality of Durham, Ontario (PIF# P390-0047-2013)


Ontario Ministry of Tourism, Culture and Sport (2012). *Sites within a One Kilometre Radius of the Project Area*, provided from the Ontario Archaeological Sites Database, 30 January 2014.


APPENDICES
APPENDIX A: MAPS

Map 1: National Topographical System Map (Energy, Mines and Resources Canada, 1985; 1994a; 1994b; 1994c) identifying the Stage 1 AA study area limits

Stage 1 AA for the Proposed Westerly Extension of Britannia Avenue West, from Proposed Windfield Farms to Thickson Road North, Regional Municipality of Durham, Ontario
Map 2: Stage 1 AA study area within the Tremaine’s Map of the County of Ontario, Canada West, Toronto (Tremaine, 1860).

Stage 1 AA for the Proposed Westerly Extension of Britannia Avenue West, from Proposed Windfield Farms to Thickson Road North, Regional Municipality of Durham, Ontario
Map 3: Stage 1 AA study area within Illustrated Historical Atlas of the County of Ontario, Canada West (J.H. Beers & Co., 1877).

Stage 1 AA for the Proposed Westerly Extension of Britannia Avenue West, from Proposed Windfield Farms to Thickson Road North, Regional Municipality of Durham, Ontario
Map 4: Designated and Listed Heritage Properties within the portion of the Stage 1 AA study within the Town of Whitby.
Map 5: Previous archaeological assessments within 50 metres of the Stage 1 AA study area.

Stage 1 AA for the Proposed Westerly Extension of Britannia Avenue West, from Proposed Windfield Farms to Thickson Road North, Regional Municipality of Durham, Ontario
Stage 1 AA for the Proposed Westerly Extension of Britannia Avenue West, from Proposed Windfield Farms to Thickson Road North, Regional Municipality of Durham, Ontario

Map 6: Results of previous archaeological assessments within 50 metres of the Stage 1 AA study area.
Map 7: 1954 aerial photograph of the Stage 1 AA study area.

Stage 1 AA for the Proposed Westerly Extension of Britannia Avenue West, from Proposed Windfield Farms to Thickson Road North, Regional Municipality of Durham, Ontario
Map 8: 2014 satellite image of the Stage 1 AA study area.

Stage 1 AA for the Proposed Westerly Extension of Britannia Avenue West, from Proposed Windfield Farms to Thickson Road North, Regional Municipality of Durham, Ontario
Map 9: Stage 1 AA of the study area, with photo locations indicated.

Stage 1 AA for the Proposed Westerly Extension of Britannia Avenue West, from Proposed Windfield Farms to Thickson Road North, Regional Municipality of Durham, Ontario
**APPENDIX B: SUMMARY OF BACKGROUND RESEARCH**

<table>
<thead>
<tr>
<th>Feature of Archaeological Potential</th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known archaeological sites within 300 m?</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes, potential confirmed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical Features</th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there water on or near the property?</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes, potential confirmed</td>
</tr>
<tr>
<td>Presence of primary water source within 300 metres of the study area (lakes, rivers, streams, creeks)</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes, potential confirmed</td>
</tr>
<tr>
<td>Presence of secondary water source within 300 metres of the study area (intermittent creeks and streams, springs, marshes, swamps)</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes, potential confirmed</td>
</tr>
<tr>
<td>Features indicating past presence of water source within 300 metres (former shorelines, relic water channels, beach ridges)</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes, potential confirmed</td>
</tr>
<tr>
<td>Accessible or inaccessible shoreline (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh)</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes, potential confirmed</td>
</tr>
<tr>
<td>Elevated topography (knolls, drumlins, eskers, plateaux, etc)</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes to two or more of 3-5 or 7-10, potential confirmed</td>
</tr>
<tr>
<td>Pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes to two or more of 3-5 or 7-10, potential confirmed</td>
</tr>
<tr>
<td>Distinctive land formations (mounds, caverns, waterfalls, peninsulas, etc)</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes to two or more of 3-5 or 7-10, potential confirmed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cultural Features</th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a known burial site or cemetery that is registered with the Cemeteries Regulation Unit on or directly adjacent to the property?</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes, potential confirmed</td>
</tr>
<tr>
<td>Associated with food or scarce resource harvest areas (traditional fishing locations, food extraction areas, raw material outcrops, etc)</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes to two or more of 3-5 or 7-10, potential confirmed</td>
</tr>
<tr>
<td>Indications of early Euro-Canadian settlement (monuments, cemeteries, structures, etc) within 300 metres</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes to two or more of 3-5 or 7-10, potential confirmed</td>
</tr>
<tr>
<td>Associated with historic transportation route (historic road, trail, portage, rail corridor, etc) within 100 metres of the property</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes to two or more of 3-5 or 7-10, potential confirmed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property-specific Information</th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contains property designated under the Ontario Heritage Act</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes to two or more of 3-5 or 7-10, potential confirmed</td>
</tr>
<tr>
<td>Local knowledge (aboriginal communities, heritage organizations, municipal heritage committees, etc)</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes, potential confirmed</td>
</tr>
<tr>
<td>Recent ground disturbance, not including agricultural cultivation (post-1960, extensive and deep land alterations)</td>
<td></td>
<td>X</td>
<td></td>
<td>If Yes, low archaeological potential is determined</td>
</tr>
</tbody>
</table>
APPENDIX C: IMAGES

**Image 1:** Looking east on Thickson Road North at disturbed roadside and commercial development.

**Image 2** Looking west at disturbed roadway and roadside (Bickle Drive) on Thornton Road North; manicured lawn and residential development within the study area.

**Image 3:** Looking east on Thickson Road North at disturbed roadside and agricultural field with archaeological potential within the study area.

**Image 4:** Looking north on Conlin Road at disturbed roadside and agricultural field with archaeological potential within the study area.

Stage 1 AA for the Proposed Westerly Extension of Britannia Avenue West, from Proposed Windfield Farms to Thickson Road North, Regional Municipality of Durham, Ontario
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**Image 5:** Looking north on Conlin Road at heavily wooded area with archaeological potential within the study area.

**Image 6:** Looking west on Garrard Road at agricultural field with archaeological potential within the study area.
APPENDIX D: INVENTORY OF DOCUMENTARY AND MATERIAL RECORD

<table>
<thead>
<tr>
<th>Document / Material</th>
<th>Inventory</th>
<th>Location</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Research/ Analysis/</td>
<td>Digital files stored on Archeoworks network servers: /2013/007-WH960-13</td>
<td>Archeoworks Inc., 16715-12 Yonge Street, Suite 1029, Newmarket, ON, Canada, L3X 1X4</td>
<td>Stored on Archeoworks network servers</td>
</tr>
<tr>
<td>Reporting Material</td>
<td>- Britannia Avenue West</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Images</td>
<td>Six (6) digital images</td>
<td>Archeoworks Inc., 16715-12 Yonge Street, Suite 1029, Newmarket, ON, Canada, L3X 1X4</td>
<td>Stored on Archeoworks network servers</td>
</tr>
</tbody>
</table>

Under Section 6 of Regulation 881 of the *Ontario Heritage Act*, *Archeoworks Inc.* will, “keep in safekeeping all objects of archaeological significance that are found under the authority of the licence and all field records that are made in the course of the work authorized by the licence, except where the objects and records are donated to Her Majesty the Queen in right of Ontario or are directed to be deposited in a public institution under subsection 66 (1) of the Act.”